LIST OF RELATED CASES

Docket Number	Serial or Patent No.	Filing or Issue Date	Status or Patentee
212607US0 DIV	09/927,395	08/13/01	PENDING
0010-1070-0*	09/466,935	12/20/99	PENDING

*Present application; listed for information.

What is claimed is:

1. A DNA coding for a protein as defined in the following (A) or (B):

(A) a protein which comprises an amino acid sequence shown in SEQ ID NO: 2 in Sequence Listing; or

(B) a protein which comprises an amino acid sequence including deletion, substitution, insertion or addition of one or several amino acids in the amino acid sequence shown in SEQ ID NO: 2 in Sequence Listing, and which has an activity of making a bacterium having the protein L-homoserine-resistant.

2. The DNA according to claim 1, which is a DNA as defined in the following (a) or (b):

(a) a DNA which comprises a nucleotide sequence of the nucleotide numbers of 557 to 1171 of a nucleotide sequence shown in SEQ ID NO: 1 in Sequence Listing; or

(b) a DNA which hybridizes with the nucleotide sequence of the nucleotide numbers of 557 to 1171 of the nucleotide sequence shown in SEQ ID NO: 1 in Sequence Listing under stringent conditions, and which codes for the protein having the activity of making the bacterium having the protein L-homoserine-resistant.

3. A bacterium belonging to the genus

Escherichia, wherein L-homoserine resistance of said bacterium is enhanced by amplifying a copy number of the DNA as defined in claim 1 in a cell of said bacterium.

4. The bacterium according to claim 3, wherein the DNA as defined in claim 1 is carried on a multicopy vector in the cell of said bacterium.

5. The bacterium according to claim 3, wherein the DNA as defined in claim 1 is carried on a transposon in the cell of said bacterium.

6. A method for producing an amino acid, comprising the steps of:

cultivating the bacterium as defined in any one of claims 3 to 5, which has an ability to produce the amino acid, in a culture medium, to produce and accumulate the amino acid in the medium, and

recovering the amino acid from the medium.

7. The method according to the claim 6, wherein said amino acid is at least one selected from the group consisting of L-homoserine, L-alanine, L-isoleucine, L-valine and L-threonine.

Abstract of the Disclosure

A bacterium which has an ability to produce an amino acid and in which a novel gene (*rhtB*) coding for a protein having an activity of making a bacterium having the protein L-homoserine-resistant is enhanced, is cultivated in a culture medium to produce and accumulate the amino acid in the medium, and the amino acid is recovered from the medium.

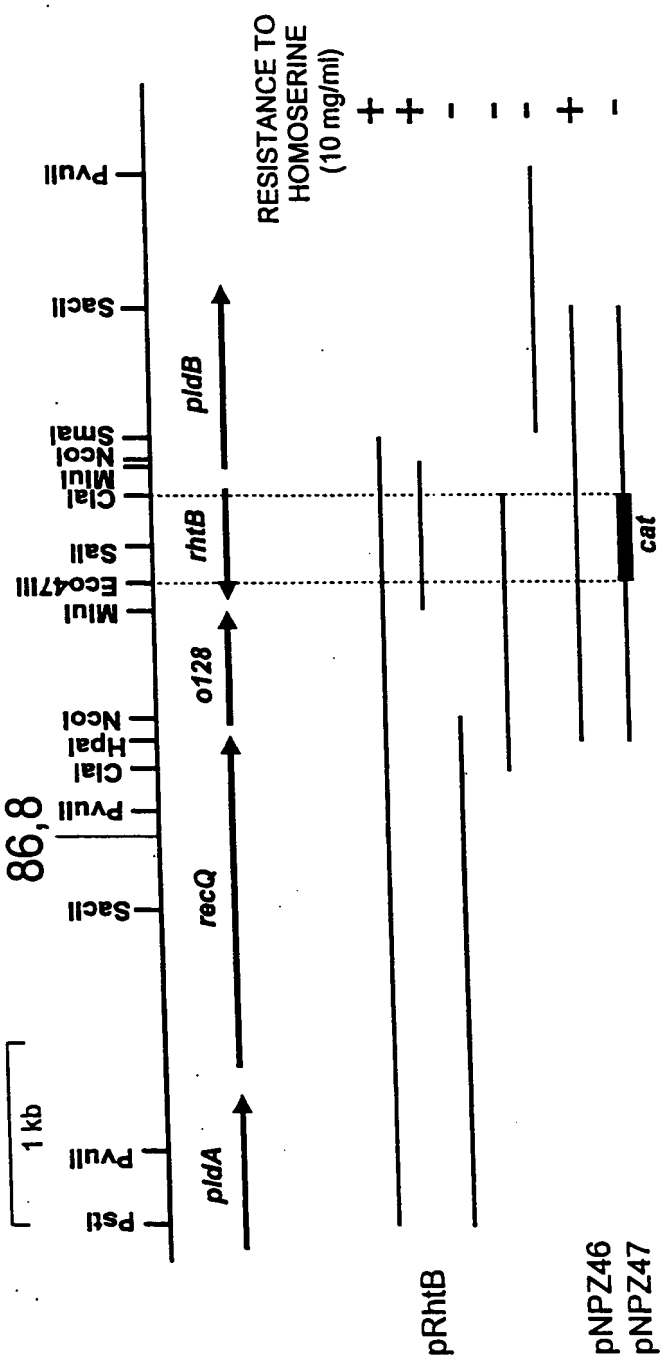
RESISTANCE TO HOMOSERINE (10 mg/ml)
+ + - - - + -
PvuII
SacII
SmaI
NcoI
MluI
ClaI
SalI
EcoRI
MluI
NcoI
HpaI
ClaI
PvuII
SacII
PvuII
PstI
86,8
1 kb
pldA
recQ
o128
rhtB
pldB
cat
pRhtB
pNPZ46
pNPZ47

FIG. 1

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Met Thr Leu Glu Trp Trp Phe Ala Tyr Leu Leu Thr Ser Ile Ile Leu
  1               5                  10                  15
Thr Leu Ser Pro Gly Ser Gly Ala Ile Asn Thr Met Thr Thr Ser Leu
             20                  25                  30
Asn His Gly Tyr Pro Ala Gly Gly Val Tyr Cys Trp Ala Ser Asp Arg
         35                  40                  45
Thr Gly Asp Ser Tyr Cys Ala Gly Trp Arg Gly Val Gly Thr Leu Phe
     50                  55                  60
Ser Arg Ser Val Ile Ala Phe Glu Val Leu Lys Trp Ala Gly Ala Ala
 65                  70                  75                  80
Tyr Leu Ile Trp Leu Gly Ile Gln Gln Trp Arg Ala Ala Gly Ala Ile
                 85                  90                  95
Asp Leu Lys Ser Leu Ala Ser Thr Gln Ser Arg Arg His Leu Phe Gln
            100                 105                 110
Arg Ala Val Phe Val Asn Leu Thr Asn Pro Lys Ser Ile Val Phe Leu
        115                 120                 125
Ala Ala Leu Phe Pro Gln Phe Ile Met Pro Gln Gln Pro Gln Leu Met
    130                 135                 140
Gln Tyr Ile Val Leu Gly Val Thr Thr Ile Val Val Asp Ile Ile Val
145                 150                 155                 160
Met Ile Gly Tyr Ala Thr Leu Ala Gln Arg Ile Ala Leu Trp Ile Lys
                165                 170                 175
Gly Pro Lys Gln Met Lys Ala Leu Asn Lys Ile Phe Gly Ser Leu Phe
            180                 185                 190
Met Leu Val Gly Ala Leu Leu Ala Ser Ala Arg His Ala
        195                 200                 205
(SEQ ID NO: 2)
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FIG. 2